

will rebuild.—A brick residence about two miles from Simcoe, Ont., owned by H. Shuyler, was burned on the 9th inst. Insurance \$1,000.—The cooper shop of Hamilton Ramsey, London West, Ont., has been destroyed by fire. Loss \$1,200.—A double frame tenement house at Hastings, Ont., owned by Andrew L. Nelson, of Otonabee, was partially destroyed by fire last week. Loss covered by insurance.—The Zurich woollen mill at Zurich, Ont., owned by Johnson Bros., has been burned. Loss, \$10,000; no insurance.—Wm. Phelps' brick dwelling in Thurlow, Ont., was burned on the 14th inst. Loss \$2,500.—The works of the Canadian Bridge & Iron Company, Montreal, were destroyed by fire on Tuesday last. Loss, \$7,000.

#### CONTRACTS AWARDED.

**OTTAWA, ONT.**—Odell Bros. are supplying the brick for a row of stores to be built on Sparks street.

**MONCTON, N. B.**—The contract for the new station here has been awarded to Rhodes, Curry & Co., of Amherst, N. S.

**LUNENBURG, N. S.**—Frank Powers, plumber and mechanical engineer, has obtained a \$15,000 contract in Victoria, B. C.

**STRATFORD, ONT.**—The tender of H. O'Hara & Co., of Toronto, has been accepted for \$8,000 of debentures. Price \$8,221.

**LONDON, ONT.**—The Rogers Electric Co. have been awarded the contract for wiring the new House of Refuge at Sarnia.

**GUELPH, ONT.**—The contract for an electrical fire alarm system has been awarded to the Bell Telephone Co., of Montreal.

**ST. BENOIT, QUE.**—J. L. Fateaux has been given the contract for building an addition 45x56 feet, to St. Mary's convent at Vanleek Hill.

**BURK'S FALLS, ONT.**—Knight Bros., of this place, have the contract of supplying the Gravenhurst sanatorium with kiln dried birch flooring and sheeting.

**WEST BAY, N. S.**—The tender of the Bras d'Or Marble Co. has been accepted for supplying marble for Mr. Wright's new building, corner Prince and Barrington streets, Halifax.

**BROCKVILLE, ONT.**—James Taylor has the contract for a three-storey boat-house for Geo. T. Fulford.—Messrs. Brown & Semple have been awarded the contract for the plumbing and heating at the new James street school.

**HAMILTON, ONT.**—Contracts for sewers have been let as follows: D. Newlands, Alanson street, 40 cents per foot; E. C. Murton, Peter street, 23 cents; Nelson street, 27 cents; William Spence, Macaulay street, 35 cents; York street, 76 cents.

**ST. THOMAS, ONT.**—Neil Darrach, architect, of this city, has awarded the contracts as below for the erection of a Presbyterian manse at Belmont, to cost \$2,500: Carpentry, George Garrow; masonry, Mark Bowey; plastering, S. Peters.

**TRURO, N. S.**—The Merchants' Bank of Halifax has awarded the contract for erecting their branch building here, the plans for which were prepared by Elliott & Hopson, to James Reid, of Dorchester, N. B. The first story of the building will be of red sandstone and the upper stories of buff brick and terra cotta.

**CHARLOTTETOWN, P. E. I.**—Benjamin Rogers is erecting a large building on Grattan street, to be used for warehouse purposes. It will be 120x40 feet, three storeys, built of brick and stone. The architects are Lowe Bros. and the contractors for the brick work Jenkins & Gormley.

**WINNIPEG, MAN.**—Ex-Alderman Wyatt has let the contract for his new block on Main street to P. Burnett, at a price about \$20,000. It will be built of white brick and native stone, 120 feet frontage, three storeys high, with basement.—M. Bull, manager of the Royal Soap Company, has let the contract to excavate a cellar and place a stone foundation under the Royal Crown factory on King street, to Philip Burnett, the price being in the neighborhood of \$3,500.

**MONTREAL, QUE.**—M. V. Lacombe, architect, has awarded the contract for reparations of a house on St. Catharine street for C. A. Bisset, to Alfred Delorme.—L. K. Montbriant, architect, has in charge the erection of three houses on Beaudry street, one stable and one ice house for Edm. Morin, the whole to be done by day labor.—C. E. Fournier, architect, has let contracts as below for one three-storey building for M. C. Field: Masonry, Nap. Guilbault; carpenter and joiners' work, Severe Beaudoin; roofing, Montreal Roofing Co.; plumbing, Carson & Galarneau; brick, Narcisse Major; plastering, Alderic Beauchamp; painting and glazing, Bolduc & Landry; iron work not let.—The Lachine Rapids Hydraulic Co. have awarded the following contracts: Power and dynamo houses—stone, Wm. Davis & Sons; wood, James Shearer & Co.; brick, Eamos Cowen; painting, L. Z. Mathieu; steel work, Dominion Bridge Co.; roofing not let. Crib and dam work—Wm. Davis & Sons, contractors. The contract for 10,000 barrels of cement will be let this week.

#### BUSINESS NOTES.

Forde & Casey, builders, Montreal, have dissolved partnership.

C. Lafontaine & Frere, contractors, Montreal, have formed new co-partnership.

George Howe, paints, Ottawa, who assigned recently, is offering 23 cents on the dollar, secured, payable in four and eight months. His liabilities are \$10,000.

#### CHIMNEY BUILDING.

All who sell heating and cooking apparatus have more or less trouble from bad chimneys, due not so much to poor workmanship as to improper shape. Some chimney builders hold the opinion that if the area of the flue is sufficient the form is of small importance. A little consideration, however, will discover the fallacy of this statement. It is not open to question that air when heated rises with a curling spiral movement. Consequently, the flue best adapted in shape for conveying it in its natural state or mingled with smoke or gases would be a round flue, says a writer in the Metal

Worker. The conclusion of many students of the subject is that the smallest dimension of a flue, rather than its cross area, gives the correct basis for calculating its capacity. They agree that a square flue has practically no advantage over a round flue of the same diameter. Though a 9x9 inch square flue has an area of 81 inches, a 9 inch round flue with an area of but 63 inches is considered to be more desirable where a good draft is needed. In some cases, in order to avoid a breast in a building, a chimney 4 x 20 inches has been built, with the idea that the area gives the required capacity, while in fact such a flue is very discouraging in operation. The diameter of the largest circle that could be inscribed in it would only be four inches, and the working capacity of such a flue would not greatly exceed in effect the work of a 4 inch round flue. Friction is a very prominent factor that must be considered, and a 4 x 20 inch flue would present a surface of 48 inches against 36 inches for a 9 x 9 inch flue and 28½ inches for a 9 inch round flue. The excessive friction surface of the oblong flue will be readily understood to be a serious drawback when it is considered that a 9 inch round flue is about equal in working capacity to a 9 inch square flue, though the latter has a greater area. Another factor which is said by some to be important is the depth to which the friction affects the current. They say it influences the current through a layer of at least ½ inch on each side, leaving only 8 inches of the current in a 9 inch flue unaffected by friction. It thus reduces a 9 x 9 inch flue to 8 x 8 inches and a 4 x 20 inch flue to 3 x 19 inches, showing that the oblong suffers severely in the application of this method of calculation. Those who have not followed this course of reasoning to discover the cause of dissatisfaction with oblong flues can recall instances in their experience which will corroborate the conclusions. They will know that a heating apparatus of ample capacity has been condemned as inadequate, because the chimney could not develop its full power even when an excessive quantity of fuel was run through it in the attempt. With such information, a heating contractor should not allow the owner of a building in course of construction to become the victim of a bad flue through the ignorance of the builder or through a desire to avoid the obstruction of a breast. The chimney must have diameter rather than area to have working capacity.

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